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THAKUR, VIREN A

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/501,975
Filing Date: July 15, 2004
Appellant(s): LABORBE ET AL.

Robert M. Barrett
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed August 25, 2010 appealing from the Office action mailed April 16, 2010.

(1) Real Party in Interest

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The following is a list of claims that are rejected and pending in the application:

Claims 10-11, 14, 16, 22-24,38-46 are pending.

(4) Status of Amendments After Final

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

(5) Summary of Claimed Subject Matter

The examiner has no comment on the summary of claimed subject matter contained in the brief.

(6) Grounds of Rejection to be Reviewed on Appeal

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being maintained by the examiner except for the grounds of rejection (if any) listed under the subheading "WITHDRAWN REJECTIONS." New grounds of rejection (if any) are provided under the subheading "NEW GROUNDS OF REJECTION."

It is noted that the rejections relying on Horrocks (US 3898345) as the primary reference inadvertently included claim 12 in the rejection heading. Claim 12 has been cancelled. Therefore, for clarification, the rejections relying on Horrocks as the primary reference are corrected as follows:

- Claims 10, 14, 16, 23, 24, 38, 40-42, 44, 45 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horrocks et al. (US 3898345) in view of Ito et al. (US 5059444), Dupont-Delhovren (US 5567466), and Ziegler (US 3073700) and in further view of Hagen et al. (US 3586512) and Mizutani et al. (JP58-190364).

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- Claims 22 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claims 10, 14, 16, 23, 24, 38, 40-42, 44, 45, and 46, above which relies on Horrocks as the primary reference, and in further view of Prasad et al. (WO0065937), Hood (US 4089983), Corbett et al. (US 4508741), Francis (The Encyclopedia of Food Science and Technology), Dictionary of Food Science and Technology, Durst (US 3434843), Igoe (The Dictionary of Food Ingredients), Stoloff (US 2567085), Coppage et al. (US 3965259) and Palmer (US 3873736).

(7) Claims Appendix

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

(8) Evidence Relied Upon

US 5567466	DUPONT-DELHOVREN	10-1996
US 3898345	HORROCKS et al.	8-1975
US 3808340	PALMER, Hugh	4-1974
US 5059444	ITO et al.	10-1991
US 3073700	ZIEGLER, JOHN	1-1963
US 3586512	HAGEN et al.	6-1971
US 4089983	HOOD, LARRY	5-1978
US 4508741	CORBETT et al.	4-1985
US 3434843	DURST, JACK	3-1969

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US 2567085	STOLOFF, LEONARD	9-1951
US 3965259	COPPAGE et al.	6-1976
US 3873736	PALMER et al.	3-1975
WO0065937	PRASAD et al.	11-2000
GB 2135399	ARISS et al.	2-1998
JP 58-190364	MIZUTANI et al.	11-1983

Igoe, Robert S., "Dictionary of Food Ingredients." Fourth Edition, Aspen Publishers, 2001, pages 14, 76, 126

Francis, Frederick. "Encyclopedia of Food Science and Technology." 2nd Edition, John Wiley & Sons, Inc. 2000, page 383

Dictionary of Food Science and Technology, pages 393,395, Blackwell Publishing, 2005

"University of Chicago - Celiac Disease Center - Gluten Free Diet"

<http://www.celiacdiseases.net/gluten-free-diet>

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 10-11,14,16,23,24,38-42,44-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prasad et al. (WO0065937) in view of Dupont-Delhovren (US 5567466) and in further view of Horrocks et al. (US 3898345), Ariss et al. (GB2315399), Palmer (US 3808340), Ito et al. (US 5059444) and Ziegler (US 3073700) and in further view of Hagen et al. (US 3586512), Mizutani et al. (JP58-190364) and Igoe (Dictionary of Food Ingredients).

Regarding claims 10, 38 and 46, it is noted that Prasad et al. teaches a food composition that can comprise a variety of meat components such as fish, chicken, beef, pork, lamb, turkey or others that can be used in combination in a food product that is to be cooked before eating (see page 4, lines 20-28). Prasad et al. also teaches coating the combination meat product with a coating that comprises a browning agent

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(see abstract, and page 3, lines 17-19). The browning agent is thus a colorant. Prasad also teaches that the coating comprises a protein, such as egg white powder or soy or whey protein (see page 3, line 26 to page 4, line 2) and which further includes chromogens (i.e. colorants such as caramel, annatto and turmeric) (see page 6, lines 11-15) which facilitate providing the desired roasted brown appearance to the meat when it has been cooked. Therefore, Prasad thus broadly teaches inclusion of a combination meat product and a coating comprising colorants and a protein source which gives a roasted brown appearance to the food after cooking.

Claims 10, 38 and 46 differ from Prasad et al. in the particular food product that has been coated with the coating composition that results in the roasted brown appearance. Specifically, claim 10 recites that the animal food composition comprises an animal food piece comprising 55-85% by weight of at least one of meat and fish; 10-25% by weight of a cereal and 6-15% by weight of water. Claim 38 further limits the particular animal food composition to 58-68% by weight of at least one of a meat and a fish; 10-25% by weight of a cereal; 2-5% plant protein and 5-14% water. Claim 46 further recites that the product is a meat emulsion product comprising a mixture of a meat, a cereal, a textured protein, water, vitamins, salt, a flavoring and a colorant.

Regarding the particular animal food composition, it is noted that Dupont-Delhovren teaches the claimed animal food piece (see at least, column 1, lines 28-37). On this cited column and line, Dupont-Delhovren teaches an animal food product comprising a mixture of meat and meat by-products at 55-85%, 10-25% cereal and up to 15% water. Dupont-Delhovren also teaches on column 2, lines 42-46, 58-68% meat

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and meat by-products, 16-25% cereal 2-5% of a plant protein, such as vegetable protein extract and 5-14% water. On column 1, lines 50-67, Dupont-Delhovren teaches that meat and fish can be combined together. Regarding the textured protein recited in claim 46, Dupont-Delhovren teaches using vegetable extract protein or pig or beef plasma which are considered texturing proteins (column 2, lines 35-41 and 46-48). Further regarding claim 46, Dupont-Delhovren teaches a mixture of meat, cereal, textured plant protein, water, vitamins, salt, a flavoring, and a colorant (i.e. dyes) (see column 2, lines 42-46 and column 2, lines 56-57). It is noted that Dupont-Delhovren also teaches incorporating colorants (i.e. dyes) into both a sauce that would cover the chunks and into the chunks themselves (column 2, lines 29-32 and lines 56-57). Thus, Dupont-Delhovren also teaches adding colors to both the coating sauce as well as the formed meat product.

Therefore, Dupont-Delhovren is similar to Prasad et al., in that Dupont-Delhovren also teaches a combination of meat products that have been coated with another composition, where that composition also comprises colorants. Prasad also teaches a combination of meat products which also comprise a coating that has colorants. Thus, since Prasad already teaches employing a coating composition for the purpose of achieving a roasted appearance, comprising a colorant and a protein and since Dupont-Delhovren also teaches a coating applied to meat products which is subsequently heated (see column 3, lines 49-55), to modify Prasad and coat the meat product taught by Dupont-Delhovren would have been an obvious matter of choice based on the

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particular conventional food composition that the ordinarily skilled artisan would have desired to coat for the purpose of achieving a roasted appearance.

Regarding the colorant or pigment employed, it is noted that Prasad already teaches employing colorants. For instance, Prasad et al. teaches that the coating composition can comprise colorants for achieving a roasted brown appearance using for instance, 5.49% of the browning agent (see page 18, table 4 and page 5, lines 17-20), which thus falls within applicants' claimed range of 5-10% by weight of the coating composition. It is noted that one of the components that Prasad et al. teaches to be used for creating the roasted appearance is annatto (see page 6), which would have been known to the ordinarily skilled artisan provides a red color.

Nevertheless, claims 10, 38 and 46 differ from Prasad in the particular colorant or pigment that has been employed.

Nevertheless, it is noted that blood has been a conventional coloring agent for food products comprising meat or for simulating meat. For instance, Horrocks et al. teaches in example 5, covering a protein product with a combination of 5% egg albumin and 10% blood and subsequently baking the coated food piece at 350°F (see column 8, line 63 to column 9, line 5 and column 8, line 25-26). Horrocks et al. also teaches that the blood can be fresh blood or dried blood (column 6, lines 27-33 and lines 37-39). Clearly, Horrocks et al. teaches employing blood as a colorant. Ariss et al. further evidences using 10% dried blood that can be used in combination with a protein to form a gel coated coloring on a food product (see page 2, line 23 and page 1, lines 15-18, 20 and page 1, lines 28-29). It is noted that, Palmer '340 further evidences that it has been

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conventional in the art to use blood in a coating (example VII on column 7). It is noted that the blood is part of the composition of the coating material, which Palmer '340 teaches, can include coloring materials (column 3, line 40). In view of the teachings of Horrocks et al., Ariss et al. and Palmer '340, it would have been obvious to the ordinarily skilled artisan, that the blood included in the coating composition taught by Palmer '340 also would have provided color. Additionally, it is noted that the art has also recognized that blood pigments denatured lose their red color when exposed to a particular degree of heat to achieve a "roasted state," as taught by Ito et al. (see column 1, lines 15-25). Thus Prasad et al. already teaches a variety of colorants, including a conventional red annatto colorant that can be employed for the purpose of achieving a particular roasted appearance. Prasad further teaches that the particular coloring agents are not limited for achieving a brown roasted appearance (page 6, lines 17-20) and since the art also teaches employing another conventional colorant, dried blood, for the purpose of achieving a desired color / simulated effect to the food. Therefore, to thus modify the combination and employ another conventional coloring agent, such as blood, would have been an obvious result effective variable, routinely determinable by experimentation depending on the particular degree of color and roasted appearance desired. Regarding the use of powdered blood versus dried blood, it is noted that once the art taught employing dried blood, whether it would further have been a powder would have been an obvious matter of choice and/or design. In any case, Ziegler teaches using powdered blood with the advantage that it reduces the risk of putrefaction and spoiling of the colorant. Therefore it would have been obvious to use powdered

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blood as opposed to liquid blood to prevent spoiling of the blood. It is noted that applicant is not the first to use a mixture of colorants and further to use blood for providing a desired color, and the prior art teaches that these colorants have been well established to be used in mixtures for achieving a desired color and thus to use this combination would not have provided a patentable feature over the prior art.

Claims 10, 38 and 46 further recite that the coating comprises a source of proteins selected from a plasma, a gluten, a blood and combinations thereof. Regarding this limitation, it is noted that Prasad et al. already teaches including protein into the coating composition, such as wheat gluten hydrolysate (page 7, line 29), which is thus a gluten protein source. Thus, Prasad teaches a protein such as a gluten, as recited in claims 10, 38 and 46. It is further noted that Prasad et al. also teaches the use of other sources of protein, such as egg whites, whey protein and soy protein (see page 4, lines 1-2 and page 10, lines 1-4). Furthermore, it is noted that Horrocks et al. teaches employing a combination of a gelling protein and blood to coat a food product (column 8, line 63 to column 9, line 2) wherein the protein is albumin. On column 3, line 66 to column 4, line 3, Horrocks et al. further teaches that coagulable proteins include wheat gluten, blood plasma, albumin and starches - thus further teaching other proteins employed for coating compositions as recited in claims 10, 38 and 46, such as gluten and plasma and blood.. Prasad already teaches a protein source such as gluten and even teaches employing egg albumin (in the form of egg whites) (see page 12), with the proteins gelatinized. Therefore, the particular conventional protein that one chose to employ for the purpose of providing a coated surface on the food product, would have

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been an obvious result effective variable, routinely determinable by experimentation for the purpose of achieving the desired binding and texture to the product.

Claims 10, 38 and 46 further recite that the coating comprises "sodium alginate in an amount from about 1% to about 2%." Regarding this limitation, it is noted that the combination as applied above, already teaches the use of binders in the coating composition (page 12, lines 18-19 of Prasad, for instance).

Prasad appears silent in specifically teaching the use of binders such as sodium alginate.

Obviously, to thicken and increase the viscosity of the coating composition taught by Prasad would have been an obvious result effective variable to the ordinarily skilled artisan since it would have provided the recognized advantage of improved coating, due to less fluidity of the coating. Nevertheless, Hagen et al. teaches adding a hydrophilic binding material to the food coating for the purpose of giving the coating a desired degree of cohesive and adhesive forces which would assure that the coating adheres to the foodstuff prior to and after cooking (column 6, lines 5-12). Hagen et al. further teaches that another function of the hydrophilic binder is that it controls the color development when cooking (column 6, lines 29-33) and can be employed at 2%, for instance, using a mixture that includes alginates and gums and carboxymethyl cellulose (column 6, lines 34-41). Mizutani et al. similarly teaches coating a food with a coating comprising an alginate, such as sodium alginate, for the purpose of achieving a coating on the food. Obviously, sodium alginate has been a well known emulsifier/binder/thickener, as even further evidenced by Iggoe. Since Prasad already

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teaches that a binder can be employed, to thus modify the combination and employ sodium alginate at 2%, as taught by Hagen et al. and Mizutani et al., would thus have been an obvious result effective variable, routinely determined by experimentation for the purpose of achieving the desired flowability for attaining the desired thickness of the coating on the food.

Claims 11 and 39 specifically recite that the coating contains from 30-50% by weight of water.

It is noted that Prasad et al. teach on page 13, lines 15-17 that the liquid marinade that coats the food product can comprise water from between 5 to 80 percent by weight of the liquid marinade. To therefore employ an amount of water between 30 to 50 percent, for instance, would have been obvious to the ordinarily skilled artisan for its art recognized and applicants' intended function. For instance, to modify the amount of water would have been obvious depending on the desired consistency and fluidity desired for the composition.

Regarding claim 40, the combination as applied to claim 1 already teaches employing 10% blood as a colorant, as taught by Horrocks, for instance.

Regarding claims 14 and 41, Prasad et al. disclose using proteins in the coating as part of the texturing agent. Prasad et al. disclose using preferably about 32 to 38 percent of the texture improving agent (Page 5, lines 25-28). The proteins included in this component are egg white, whey protein and soy protein. On page 10, Prasad et al. disclose the maximum preferable ranges for each of these as 18 percent, 12 percent and 15 percent, respectively. Therefore the total protein content in the coating is 45

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percent. Since Prasad et al. use a maximum preferable amount of the texture improving agent of 38 percent, the total protein in the coating is 45 percent of 38, which is approximately 18 percent. An additional protein component, an enzyme modified dairy ingredient such as hydrolyzed wheat gluten, is also included in the browning agent (Page 7, line 29), present at most preferably between 60 and 70 percent of the browning agent composition. The browning agent is included in the coating at “most preferable” between 3 and 5 percent (Page 5, line 19). Therefore the maximum preferable amount of hydrolyzed wheat gluten in the browning agent is $5 * 70$ percent, which is 3.5 percent. The total amount of protein included in the coating is thus 18 percent + 3.5 percent = 21.5 percent. This is considered to be about 20 percent.

Additionally, it is noted that Horrocks et al. teaches applying a coating to a food product using 5% egg albumin and 10% blood, thus teaching a protein and colorant within applicants' claimed range. Therefore, the particular amount of proteins employed for achieving the desired degree of coagulation on the surface of the food would have been an obvious result effective variable, routinely determinable by experimentation.

Regarding claims 16 and 42, Prasad et al. disclose adding water to the coating (Page 4, lines 3-6). It is noted that these two claims recite the group as “a thickner in addition to the sodium alginate”, a binder, an additive, flour, water and combinations thereof.

Regarding claims 23 and 44, it is noted that the claims are directed to a product and not a method of cooking. Additionally, by reciting “after cooking” the claim does not positively recite cooking but merely indicates that at some point the combination of the

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food product and coating are cooked and when this happens a particular result is achieved. In any case, Prasad et al. disclose the claimed food composition and coating and further cook the food and coating (see claim 24 below). Applicant and Prasad et al. are using conventional cooking techniques. Therefore the coating and composition of Prasad et al. would intrinsically have achieved the same result as that of the claimed invention.

Regarding claims 24 and 45, it is noted that Prasad et al. teach coating a meat product with a coating composition and then cooking said food composition with coating in a microwave or convection oven (Page 4, lines 12-16 and Page 5, lines 3-7).

Claims 22 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claims 10-11,14,16,23,24, 38-42,44-46, above in paragraph , and in further view of Hood (US 4089983), Corbett et al. (US 4508741), Francis (The Encyclopedia of Food Science and Technology), University of Chicago, Dictionary of Food Science and Technology, Durst (US 3434843), Igoe (The Dictionary of Food Ingredients), Stoloff (US 2567085), Coppage et al. (US 3965259) and Palmer (US 3873736).

Claims 22 and 43 recite reciting employing a combination of conventional food additives/ingredients, well known and extensively employed in the art, including caramelized sugar, starch, a guar, a carboxymethyl-cellulose, a flour, water, a plasma, a

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powdered blood, sodium alginate, a salt, a sugar, an ascorbic acid, a gluten and an iron oxide.

Regarding these components, it is noted that Prasad et al. teach that the coating comprises a caramel color (page 6, line 23) and further also recognized the browning of sugar as a result of the cooking process (page 8, line 27 to page 9, line 2) (i.e. caramelized sugar). Corbett et al. teach that it has been well known in the art to use caramel colorants for coating pet food products (Column 4, lines 61-66). Francis is cited as further evidence that it has been well known that caramel colorants are derived by caramelizing sugar. Even further evidenced by Coppage on column 8, line 37, caramel (i.e. caramelized sugar) has been a conventionally employed colorant and further teach using iron oxide and caramelized sugar for the purpose of giving a food product a cooked appearance (column 7, lines 36-52). Thus, it would have been obvious to one having ordinary skill in the art to employ caramelized sugar for providing a brown color, as taught by Prasad et al. Prasad et al. further teach that the coating comprises starch (page 3, line 26 to page 4, line 2), water (page 13, lines 15-17), salt and other flavorings (page 6, lines 4-9) and gluten (page 7, lines 29-30). Regarding the gluten, it is noted that enzyme modified wheat gluten hydrolysate is still gluten. This is further evidenced by the fact that hydrolyzed wheat gluten is still listed as one of the components that should not be included in gluten-free diets. University of Chicago provides further evidence that wheat gluten hydrolysate contains gluten (See page 2 of 7 of section titled "Ingredients to Avoid (Contain Gluten)).

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Therefore, Prasad et al. already teaches employing caramelized sugar, starch, water, salt, other flavorants and gluten. Claims 22 and 43 further differ from Prasad et al in the other particular conventional ingredients used in the composition, such as flour.

Palmer '340 teaches that it was conventional to employ flour, such as bone flour (Column 7, line 43) and wholemeal wheat flour (Column 7, line 41) into the coating composition that coats the meat. As evidenced by Dictionary of Food Science and Technology, wholemeal flour is a starch and also comprises gluten. Wholemeal wheat flour contains all the components of the wheat grain. The Dictionary of Food Science and Technology teaches that wheat grain comprises gluten. Palmer '340 further teaches wherein the coating comprises salt (Column 7, line 44). Palmer '340 is further analogous to Prasad in that Palmer '340 also teaches that it has been conventional to employ colorants (Column 3, line 40) and sugar (Column 3, line 17). Therefore, Palmer '340 thus teaches employing gluten and starch through the use of flour in a coating composition that coats a meat product. In addition, on column 8, lines 25-47, Coppage et al. also teach that it was conventional to employ wheat flour and barley, which both contain gluten, as evidenced by University of Chicago on page 2 of 7, and which can further thicken the slurry into which the food product has been placed (see column 8, lines 6-8 and lines 16-46) .

The art taken as a whole thus teaches that flour, for instance, has been conventionally employed for its art recognized purpose in compositions that coat meat products. To therefore modify the combination and employ conventional food additives/ingredients, such as wholemeal wheat flour, which thus also comprises the

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gluten as taught by Palmer '340 and Coppage et al. facilitates thickening/coagulating of the coating and for giving the food product a pleasing flavor, aroma, appearance and texture, would have been obvious for its art recognized and applicants' intended function.

Regarding using powdered blood, as recited in claims 22 and 43, it is noted that the combination, as applied to claims 10, 38 and 46 already teaches using powdered blood. Regarding the use of iron oxide, it is noted that Coppage et al. already teaches employing iron oxide as a colorant to give the food a cooked appearance (column 7, lines 36-52). Hood further evidences employing iron oxide to adjust the color of the product (see column 4, lines 30-47). Since Prasad already teaches employing colorants for achieving a roasted appearance, to modify the combination as applied to claims 10, 38 and 46 and also employ iron oxide would thus have been an obvious result effective variable, routinely determined through experimentation, for the purpose of achieving the particular desired roasted appearance to the food after cooking.

Claims 22 and 43 further differ from the combination applied to claims 10, 38 and 46, in using a guar, a carboxymethyl cellulose and sodium alginate in the coating composition, in combination.

The combination applied to claims 10, 38 and 46 already teaches employing sodium alginate. In any case, it is noted that Palmer '340 teaches using gums such as gum Arabic and also teach using carboxymethylcellulose in the coating compositions (See Example VIII on column 8 and Example X on column 9). These gums have been well known binders and film formers for coatings, and Prasad et al. teach that binders

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can be added into the coating composition (page 12, lines 18-19). Furthermore, Durst teaches using a combination of film formers for an external coating on a food product which can use a combination of film forming substances including carboxymethylcellulose, guar gum and sodium alginate (Column 2, lines 36-48). As a result of using a combination of edible film formers in the coating on the food product, rancidification is minimized and the desired qualities of the food product, such as chewiness and flexibility through storage are preserved (Column 2, lines 22-35). Durst further teaches using humectants and water in combination with the film forming substances for the purpose of encapsulating the food product (Column 2, lines 49-50). Similar to Durst, Palmer '340 teaches using a humectant (Column 3, line 43) and a film former such as gums and carboxymethylcellulose in combination with water in a coating for a food product, which coagulates and thus results in an even film over the food product (Column 4, lines 38-53). Humectants, antioxidants and stabilizers have been well established in the art as components used to protect the quality of the food. For instance, humectants drive moisture away from the food product and antioxidants and stabilizers prevent spoiling and loss of organoleptic properties of the food product.

Therefore, since Prasad already teaches employing binders, to modify Prasad and also employ additional conventional binders, such as guar and carboxymethylcellulose, together with sodium alginate would have been an obvious result effective variable, routinely determinable by experimentation for its art recognized function of achieving the particular degree of binding of the coating ingredients to each other and to the food product. Also, as taught by Durst, to use a combination of edible

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film forming substances would further have been obvious to the ordinarily skilled artisan, based on Durst's teaching of using a combination of edible film forming substances for the purpose of protecting the food from rancidification and preserved the organoleptic properties over long term storage, while also aiding in providing a particular consistency to the coating.

Further regarding claims 22 and 43, which recite the use of ascorbic acid, it is noted that Palmer '340 teach adding vitamins and antioxidants to the coating (Column 3, lines 40-42). Palmer is silent in specifically using ascorbic acid and thus claims 22 and 43 differ from the combination in this regard.

Nevertheless, Igoe teaches that ascorbic acid provides nutrients and is essential for healthy bones and teeth. Igoe further teaches that ascorbic acid has also been well known to be used as an antioxidant to increase the shelf life of processed foods (Page 14). Palmer '340 teaches producing a processed food and further teaches using an antioxidant as well as a vitamin solution within the coating (column 3, lines 38-42). Therefore to modify Prasad et al. and also employ ascorbic acid would have been obvious to the ordinarily skilled artisan, in light of the teachings of Palmer '340 and Igoe, as an antioxidant and as a nutritive vitamin. Stoloff is cited as further evidence of the conventionality of coating a food product with ascorbic acid for the purpose of preservation (Column 2, Lines 9-16).

Regarding the use of plasma and gluten, Prasad et al. teaches employing gluten, as discussed above with respect to claims 10, 38 and 46, but claims 22 and 43 further differ from the combination applied above in reciting using plasma together with gluten.

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Palmer '736 teaches that gluten, plasma soy protein and egg albumen are well known binders that are also heat coagulable (Column 4, lines 55-59). Furthermore, Example 2 teaches combining gluten and plasma to form the coagulable protein. Therefore the art recognized that both gluten and plasma are proteins which also act as binders, thus serving similar functions. It is noted that Prasad already teaches employing protein sources such as soy protein (see page 4, lines 1-2) and even teaches employing egg whites (see page 12, lines 1-4), which thus overlaps those coagulable proteins taught by Palmer '736. Prasad teaches that such components serve to improve the texture of the food during cooking (see page 3, line 27 to page 4, line 2). Therefore, the art teaches that proteins such as gluten and plasma aide in coagulating a coating composition and thus bind the components of the mixture together, as well as binding the coating with the food. The art also teaches employing multiple binders together for this purpose. Based on this recognition in the prior art, to modify Prasad et al., who already teaches employing protein binders, and to combine the two protein binders used for the same purpose would not have provided a patentable feature over the prior art (See MPEP 2144.06 I).

Regarding the number of references, it is noted that applicants have used the claimed ingredients for their art recognized function and the references relied on further evidence that it has been conventional to use the claimed components for their art recognized function in coating compositions as well. To thus employ these components for their art recognized function would have been an obvious result effective variable routinely determinable by experimentation. For instance, it would have been routinely

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determinable by experimentation to achieve a desired thickness and binding to the coating using guar, carboxymethylcellulose, starch and water, a desired coagulability using plasma and gluten and a particular flavor using salt and sugar and a desired preservative action using ascorbic acid.

In summary, applicant has combined a series of conventional food additives/ingredients, employed them for their well known, art recognized function, and achieved no new or unexpected result therefrom.

- **Claims 10, 14, 16, 23, 24, 38, 40-42, 44, 45 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horrocks et al. (US 3898345) in view of Ito et al. (US 5059444), Dupont-Delhovren (US 5567466), and Ziegler (US 3073700) and in further view of Hagen et al. (US 3586512) and Mizutani et al. (JP58-190364).**

Regarding claims 10, 38 and 46, it is noted that Horrocks et al. teaches coating, by spraying, an emulsion with a solution containing 5% egg albumin and 10% blood and subsequently heating the coated products at 380°F (See example 5). It is noted that by thus cooking a product coated with a composition of blood and a protein, that this heating would also have resulted in a roasted appearance, since applicants' product comprises blood and a protein with the result, after heating is a roasted appearance. It is noted that Horrocks et al. also teaches the blood employed within applicants' claimed range of 5-10%. Horrocks et al. even teaches the inclusion of sodium alginate as a reactive coagulant(see column 4, lines 15-16). Horrocks even teaches that the reactive

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polymer can be present at 3% (see column 4, lines 13-24). Additionally, it is noted that the art has also recognized that blood pigments denatured lose their red color when exposed to a particular degree of heat to achieve a “roasted state.” (see column 1, lines 15-25), as evidenced by Ito et al.

Claims 10, 38 and 46 differs from Horrocks et al. in the particular food product that has been sprayed with the protein/blood coating solution. Nevertheless, Dupont-Delhovren has been relied on as discussed above in the rejection that relies on Prasad as the primary reference, to teach that the claimed compositions of the animal food product, have been conventional animal food compositions. It is noted that the emulsion product taught by Horrocks et al. also includes meat products, such as liver, and water, protein and another based material such as plant fibers. Both Horrocks et al. and Dupont-Delhovren both teach coating a food composition comprising meat with another composition and where the coating also comprises colorants and therefore, are analogous. Therefore, to modify Horrocks et al. and substitute one conventional composition that can be consumed by animals, for another conventional composition that can be consumed by animals would have been an obvious matter of choice and/or design, depending on the particular food product one chose to coat and color.

Claims 10, 38 and 46 further differ in specifically reciting that the colorant is powdered blood and the protein is from the group consisting of plasma, gluten, a blood and combinations thereof.

It is noted however, that Horrocks et al. teaches that blood plasma, egg albumin and wheat gluten are all suitable heat coagulable substances (column 3, line 66 to

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column 4, line 3). Horrocks even teaches using gluten and plasma together (see example 2). Therefore, to modify Horrocks et al. and employ gluten or blood plasma would have been an obvious substitution of one conventional protein that is heat coagulable for another conventional protein that is heat coagulable. Regarding the coating comprising at least one colorant selected from the group of powdered blood, frozen blood and a combination thereof, it is noted that Horrocks et al. already recognized that blood provides a desired color to the food product and even teaches employing dried blood (see column 6, lines 34-44 and example 5). Horrocks et al. teaches employing dried blood with water (column 6, lines 37-39) but does not specifically recite powdered blood. In any case, Ziegler has been relied on, as discussed above in the rejection which relies on Prasad as the primary reference, to teach using powdered blood with the advantage that it reduces the risk of putrefaction and spoiling of the colorant. Therefore it would have been obvious to use powdered blood as opposed to liquid blood to prevent spoiling of the blood. It is noted that applicant is not the first to use a mixture of colorants and further to use blood for providing a desired color, and the prior art teaches that these colorants have been well established to be used in mixtures for achieving a desired color and thus to use this combination would not have provided a patentable feature over the prior art.

Claims 10, 38 and 46 recite that the coating comprises "sodium alginate in an amount from about 1% to about 2%."

Regarding this limitation, Horrocks et al. teaches adding sodium alginate for coagulating the coating (column 4, lines 4-25). Regarding the particular amount of

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sodium alginate employed, it is noted that Horrocks et al. teaches 0.1-3% of a reactive polymer which can be sodium alginate (see column 4, lines 13-24). Nevertheless, Hagen et al. and Mizutani et al. teach employing alginates for similar purposes as Horrocks et al. (for binding/thickening/emulsifying), wherein the alginate is within the claimed range, as discussed above in the rejection relying on Prasad as the primary reference. To thus modify Horrocks et al. and employ an alginate at 2%, for instance, for the purpose of achieving a desired thickness to the coating would have been an obvious result effective variable, routinely determined by experimentation, for the purpose of achieving the desired flowability for attaining the desired thickness of the coating on the food.

Regarding claim 40, Horrocks teaches that the pigment is present at 10% (column 8, line 67), which thus falls within the claimed range.

Regarding claims 14 and 41, Horrocks teaches the protein present at 5% (column 8, line 67), which thus falls within the claimed range.

Regarding claims 23-24 and 44-45, which recite that after cooking a non-homogenous random roasted appearance is created on the food (claims 22, 44) and wherein the composition is cooked by hot air, steam, a combined hot air and steam system and a microwave oven (claims 23, 45), it is noted that the claims are directed to the product prior to cooking. By reciting that the roasted appearance occurs “after cooking” it is noted that the claims are directed to the product prior to cooking. In any case, it is noted that since Horrocks et al. teaches cooking a coated product using a gas oven (i.e. hot air system) at 380°F, that the product taught by Horrocks et al. would also

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have achieved the claimed roasted appearance, especially since claims 10, 38 and 46 only require the use of a protein and a blood colorant for achieving the roasted appearance after cooking.

Regarding claims 16 and 42, which recite that the coating composition further comprises a component selected from the group consisting of “a thickener in addition to sodium alginate”, a binder, an additive, flour, water and combinations thereof, it is noted that Horrocks et al. teaches that the coating composition comprises water (column 8, lines 65-69), since Horrocks et al. teaches that the coating composition is a solution.

- **Claims 22 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claims 10, 14, 16, 23, 24, 38, 40-42, 44, 45, and 46, above which relies on Horrocks as the primary reference, and in further view of Prasad et al. (WO0065937), Hood (US 4089983), Corbett et al. (US 4508741), Francis (The Encyclopedia of Food Science and Technology), Dictionary of Food Science and Technology, Durst (US 3434843), Igoe (The Dictionary of Food Ingredients), Stoloff (US 2567085), Coppage et al. (US 3965259) and Palmer (US 3873736).**

Regarding claims 22 and 43, Horrocks et al. teaches a coating composition that comprises protein, such as albumin and blood as a colorant. Horrocks et al. further teaches that the coating can further comprise components such as flour, starch, gums (column 4, lines 35-37). Horrocks et al. further teaches that additional coagulant materials can be added such as sodium alginate or sodium carboxymethyl cellulose.

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Claims 22 and 43 differ from Horrocks et al. in reciting that the coating composition comprises a mixture of caramelized sugar, a guar, a carboxymethyl cellulose, a flour, sodium alginate, a salt, a sugar, an ascorbic acid, a gluten and an iron oxide.

Regarding caramelized sugar, it is noted that Prasad et al. teach wherein the coating comprises a caramel color (page 6, line 23). Corbett et al. teach that it has been well known in the art to use caramel colorants for coating pet food products (Column 4, lines 61-66). Francis is cited as further evidence that it has been well known that caramel colorants are derived by caramelizing sugar. Prasad et al. further teach wherein the coating comprises starch (page 3, line 26 to page 4, line 2), water (page 13, lines 15-17), salt and other flavorings (page 6, lines 4-9). To thus modify Horrocks et al. and employ ingredients which the art has recognized have been conventionally employed for making coating compositions that coat meat products which will subsequently provide a roasted appearance when cooking, would thus have been an obvious result effective variable, routinely determinable by experimentation, for their art recognized function.

Claims 22 and 43 further recite using a guar, a carboxymethyl cellulose and sodium alginate in the coating composition. Regarding the carboxymethyl cellulose, sodium alginate and guar, it is noted that Horrocks et al. teaches that these have been conventional coagulant materials that can be added to a coating composition (column 4, lines 13-17) as well as gums (column 4, lines 34-35). Horrocks et al. is not clear as to whether these components are used together.

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It is noted that Palmer '340 teaches using gums such as gum Arabic and also teach using carboxymethylcellulose in the coating compositions (See Example VIII on column 8 and Example X on column 9). These gums have been well known binders, and Prasad et al. teach that binders can be added into the coating composition (page 12, lines 18-19). Furthermore, Durst teaches using a combination of film formers for an external coating on a food product which can use a combination of film forming substances including carboxymethylcellulose, guar gum and sodium alginate (Column 2, lines 36-48). As a result of using a combination of edible film formers in the coating on the food product, rancidification is minimized and the desired qualities of the food product, such as chewiness and flexibility through storage are preserved (Column 2, lines 22-35). Durst further teaches using humectants and water in combination with the film forming substances for the purpose of encapsulating the food product (Column 2, lines 49-50). Since Horrocks already teaches that both already teaches employing binders, to modify Horrocks and also employ additional conventional binders together, such as guar and carboxymethylcellulose, together with sodium alginate would have been an obvious result effective variable, routinely determinable by experimentation for its art recognized function of achieving the particular degree of binding of the coating ingredients to each other and to the food product. Also, as taught by Durst, to use a combination of edible film forming substances would further have been obvious to the ordinarily skilled artisan, based on Durst's teaching of using a combination of edible film forming substances for the purpose of protecting the food from rancidification and

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preserved the organoleptic properties over long term storage, while also aiding in providing a particular consistency to the coating.

Claims 22 and 43 further differ from the combination applied above, in reciting the use of plasma in combination with gluten. It is noted that Horrocks et al. already teaches that plasma and gluten are suitable heat coagulable proteins (column 3, line 66 to column 4, line 3) but is not clear as to whether they are used together. Nevertheless, Palmer '736 teaches that gluten, plasma soy protein and egg albumen are well known binders that are also heat coagulable (Column 4, lines 55-59). Furthermore, Example 2 of Horrocks and Palmer '736 both teach combining gluten and plasma to form the coagulable protein. Therefore the art recognized that both gluten and plasma are proteins which also act as binders, thus serving similar functions. Based on this recognition in the prior art, to combine the two protein binders used for the same purpose would not have provided a patentable feature over the prior art (See MPEP 2144.06 I).

Further regarding claims 22 and 43, which recite the use of ascorbic acid, it is noted that Palmer '340 teach adding vitamins and antioxidants to the coating (Column 3, lines 40-42). Palmer is silent in specifically using ascorbic acid.

Igoe teaches that ascorbic acid provides nutrients and is essential for healthy bones and teeth. Igoe further teaches that ascorbic acid has also been well known to be used as an antioxidant to increase the shelf life of processed foods (Page 14). Palmer teaches producing a processed food and further teaches using an antioxidant as well as a vitamin solution within the coating. Therefore to use ascorbic acid would have

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been obvious to the ordinarily skilled artisan, in light of the teachings of Palmer '340 and the Dictionary of Food Ingredients, as an antioxidant and as a nutritive vitamin. Stoloff is cited as further evidence of the conventionality of coating a food product with ascorbic acid for the purpose of preservation (Column 2, Lines 9-16).

Claim 22 further differs in reciting the use of iron oxide. Nevertheless, Coppage on column 8, line 37 teaches that it has been conventional in the art to employ iron oxides as colorants for the purpose of giving a food product a cooked appearance (column 7, lines 36-52). Hood further evidences employing iron oxide to adjust the color of the product (see column 4, lines 30-47). Since Horrocks et al. already teaches achieving a product that provides a desired appearance (such as simulating another product), to thus modify the combination and further employ another conventional colorant would have been an obvious result effective variable, routinely determinable by experimentation, for the purpose of achieving the desired appearance of the food product.

(10) Response to Argument

- On pages 11-12 of the Appeal Brief, Appellants assert that they have surprisingly found that preparing an animal food piece or a meat emulsion with a coating including a source of pigments or colorants such as powdered blood or a frozen blood along with a sodium alginate and a source of protein provides a coating with a roasted appearance

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after cooking. Appellants further assert that if the cooking temperature is sufficiently high, the proteins coagulate and fix the pigment, thereby creating a surface that is browned in a scattered manner and thus appears roasted rather than merely colored. Appellants further assert that the claimed coating mixture advantageously allows for a percentage of the roasted surface to be modulated by simple modification of the amount of proteins and/or of colorants contained in the coating, or by simply varying the cooking times and temperatures.

It is noted that the claims are directed to a product prior to it being cooked. As such, the art would only be required to be capable of achieving the particular end result after cooking of having a roasted appearance. Nevertheless, it is noted that the art already teaches coating food products with a combination of colorants, proteins and other binders for the same purpose of achieving a roasted appearance to the product after it is cooked, as evidenced by Prasad. Furthermore, Prasad et al. already teaches achieving a roasted appearance due to a coating (see page 6, lines 11-15). Obviously, varying the amount of the colorants would have varied the particular type of roasted appearance. Also, the binding proteins taught by the art have been conventionally recognized to coagulate and thus facilitate binding of the coating to the food product. Furthermore, it is noted that once the art taught employing colorants, proteins and thickeners, the particular conventional colorants, proteins and thickeners that were employed would have been an obvious result effective variable, routinely determined through experimentation for the purpose of achieving the desired roasted color, degree of coating of the meat product and the desired thickness of the coating. It is further

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noted that Appellants appear to indicate that it would indeed be “simple modification” of proteins and colorants for achieving the desired roasted appearance.

- Further on page 12 of the Appeal Brief, Appellants assert that the combination fails to teach or suggest an animal food piece or emulsion coating comprising a mixture of sodium alginate in an amount from 1-2%, at least one source of pigments or colorants selected from the group consisting of powdered blood, frozen blood and combinations thereof and a source of proteins selected from the group consisting of a plasma, a gluten, a blood and combinations thereof.

This argument has been considered but is not persuasive. It is noted that Prasad already teaches employing binders (see page 12, lines 18-19). Sodium alginate has been a well recognized thickener and binder for achieving the desired degree of cohesive and adhesive forces that would assure that the coating adheres to the foodstuff prior to and after cooking (see Hagen, column 6, lines 5-12). Hagen et al. further teaches that another function of the hydrophilic binder also controls the color development when cooking (column 6, lines 29-33) and can be employed at 2%, for instance, using a mixture that includes alginates and gums and carboxymethyl cellulose (column 6, lines 34-41), which is within appellants claimed range. It is noted that Horrocks et al. also teaches employing sodium alginate at between 0.1-3% as a coagulant (see column 4, lines 4-24). Since Prasad already teaches that a binder can be employed, to thus modify the combination and employ sodium alginate at 2%, as taught by Hagen et al. and Mizutani et al., would have been an obvious result effective

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variable, routinely determined by experimentation for the purpose of achieving the desired flowability for attaining the desired thickness of the coating on the food. Also, such a modification would further have been obvious to the ordinarily skilled artisan since thus thickening and coagulation of the coating would have facilitated retaining the coating on the food before and after cooking, as taught by Hagen. Regarding the colorant, it is noted that Prasad already teaches employing red coloring, for instance, through the use of annatto for achieving a roasted appearance after cooking.

Nevertheless, it is noted that the art has already recognized employing blood as a colorant, as evidenced by Horrocks, Palmer '340 and Ito et al. Whether one employed a frozen or powdered blood would not have changed the fact that the art has recognized employing blood as a colorant. Nevertheless, the art even teaches advantages to employing powdered blood, as taught by Ziegler since it reduces the risk of putrefaction and spoiling of the colorant. Regarding the protein employed, Prasad already teaches employing wheat gluten hydrolysate (page 7, line 29), which is thus a gluten protein source. Nevertheless, Horrocks et al. also teaches employing such proteins for achieving the desired coating to the food. Therefore, to modify Prasad and employ another conventional protein that has been conventionally recognized to coagulate and facilitate binding of the coating components to each other and to the food would have been an obvious result effective variable, routinely determined through experimentation based on the desired degree of coagulation and binding desired for achieving the desired appearance and texture to the food. This would further have been obvious to the ordinarily skilled artisan, especially since Prasad teaches that the coating can

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enhance the flavor, texture and color of the final product (see page 4, lines 26-28).

Obviously, combinations of binders would also have facilitated achieving a desired texture, flavor and color since they facilitate adhesion and cohesion of the coating and the colors in the coating to the food, as taught by Hagen. Therefore, to employ conventional binders that the art already teaches can be used together for the purpose of achieving the desired cohesion and adhesion of the coating to the food product before and after cooking would indeed have been routinely determined through experimentation for ensuring that the coating imparted the desired cohesion, adhesion, coloring and textural properties to the food.

- Further on page 12 of the Appeal Brief, Appellants assert that Prasad fails to disclose or suggest that its fish or meat products including the marinade are animal food compositions.

This argument is not persuasive, since Prasad teaches coating meat, and further teaches that the coating can be used on meats employed in combination (see page 4, lines 20-28). Furthermore, it is noted that meats have been well recognized to be animal food.

- On page 13 of the Appeal Brief, Appellants assert that Dupont-Delhovren fails to teach or suggest any coatings for his animal food compositions or a need or use for the animal food composition to have a roasted appearance. Appellants further assert that Dupont-Delhovren discloses that the animal food compositions are stored with a sauce

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or base in a container, which is distinguishable from a coating in accordance with the present claims.

This argument has been considered but is not persuasive. It is noted that Dupont-Delhovren has been relied on to teach combinations of meat components. It is noted that Dupont-Delhovren is similar to Prasad since Prasad already teaches that the food to be coated with the coating composition can be a combination of meat together, which can be part of a food product (see page 4, lines 20-28). This portion of Prasad thus teaches a combination of different meats which can be used together in a food product that is to be cooked before eating. This is clearly similar to Dupont-Delhovren who also teaches a combination of meat products which are used together in a food product that is cooked before eating (see column 1, lines 27-36; lines 50-67; column 2, lines 41-52 and column 3, lines 17-35). Furthermore, Prasad coats a meat product with a coating that includes colorants and Dupont-Delhovren also coats a meat product with a coating that comprises colorants (see column 2, lines 26-32 of Dupont-Delhovren). Prasad subsequently cooks the coated meat product and Dupont-Delhovren also subsequently heats the coated food (see column 3, lines 49-55). Furthermore, it is noted that since Prasad already teaches coating a meat product that can comprise a combination of different meat components, to modify Prasad and employ another food comprising a combination of meat components would have been an obvious substitution of one conventional combination meat product for another conventional combination meat product. Furthermore, it is noted that one would not be modifying Dupont-

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Delhovren but rather would have been employing the coating taught by Prasad to provide a roasted appearance to the meat product taught by Dupont-Delhovren.

- On page 13 of the Appeal Brief, Appellants assert that Horrocks fails to teach or suggest any sodium alginate in the coatings for his meat-like protein food or a need or use for the meat-like protein to have a roasted appearance.

This argument is not persuasive. Horrocks teaches that the art has recognized employing Appellants claimed coloring agent within the claimed amount (blood at 10%) and a protein (egg albumen) within appellants claimed range. Horrocks even teaches combining gelling proteins and blood to coat a food product (column 8, line 63 to column 9, line 2) where the protein is albumin. But Horrocks also teaches that the heat coagulable protein can be other conventional protein sources, such as wheat gluten, blood plasma, albumen and starches (see column 3, line 66 to column 4, line 3). Since Prasad also teaches overlapping proteins, such as egg albumin (in the form of egg whites), to modify Prasad and employ other conventional coagulating proteins would thus have been an obvious result effective variable, routinely determined through experimentation, for the purpose of achieving the desired degree of coagulation of the coating. Furthermore, although Horrocks does not teach in example 5, a combination of the protein and sodium alginate, example 2, for instance teaches the inclusion of plasma and gluten together, thus teaching the use of multiple coagulants together. Furthermore, it is noted that Horrocks even teaches that sodium alginate can be one of the coagulant materials added to the emulsion (see column 4, lines 13-16). Therefore,

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to combine multiple conventional coagulant substances would have been an obvious result effective variable, routinely determined through experimentation, for the purpose of achieving the desired thickness, consistency and texture to the coating applied to the food.

- Further on page 13 of the Appeal Brief, Appellants assert that Ariss fails to teach or suggest sodium alginate in the coatings.

It is noted that Ariss has not been relied on to teach sodium alginate, but rather has been relied on to teach employing 10% dried blood as a colorant for coatings applied to food products (see page 2, line 23 and page 1, lines 15-18, 20 and page 1, lines 28-29).

- Further on page 13, of the Appeal Brief, Appellants assert that Palmer '340 fails to teach or suggest any sodium alginate in the coatings for his food product or the need to have a roasted appearance due to pigment/colorants and proteins. Appellants also assert that although Palmer '340 teaches using blood in its coating material, that nowhere does Palmer disclose or suggest that the blood is used either as a coloring agent or in the claimed range.

Regarding the use of sodium alginate, it is noted that Palmer '340 has not been relied on to teach the use of sodium alginate. Regarding the use of blood as a colorant, this argument is not persuasive, especially in view of Horrocks (see at least the abstract - "blood pigments as colouring agents"), and Ariss, for instance, who both teach

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employing blood to provide color to the coating on the food. Therefore, by adding blood, it is noted that is inherently a colorant that has been added to the coating.

- Further on page 13-14 of the Appeal Brief, Appellants assert that Ito fails to teach or suggest any coatings for his meat products or a need or use for the meat products to have a coating.

It is noted however, that Ito has only been relied on to further teach that blood pigments, when heated result in achieving a “roasted” state (see column 1, lines 15-25). Ito thus teaches that blood pigments, when heated can achieve roasted appearances. This provides further motivation for employing blood pigments to coatings for achieving a roasted appearance.

- Further on page 14 of the Appeal Brief, Appellants assert that Ziegler merely teaches incorporating whole blood in the meat itself to impart a desirable red color to the finished meat product, rather than using blood as a colorant for coating the meat and thus fails to teach or suggest a coating having a roasted appearance after cooking wherein the coating comprises a specified range of powdered blood and/or frozen blood.

This argument is not persuasive. It is noted that Horrocks and Ariss already teach coating a product with a coating that comprises blood. Ziegler teaches that there is an advantage to using powdered blood in that it resists spoiling better than the liquid form. Ziegler further teaches that blood can aid in providing a desired color to meat.

- Further on page 14 of the Appeal Brief, Appellants assert that Hagen fails to teach or suggest a need or use for the food to have a roasted appearance due to blood and proteins in the coating.

It is noted however, that Hagen has been relied on to teach adding a hydrophilic binding material to the food coating for the purpose of giving the coating a desired degree of cohesive and adhesive forces which would assure that the coating adheres to the foodstuff prior to and after cooking (column 6, lines 5-12). Hagen et al. further teaches that another function of the hydrophilic binder is that it also controls the color development when cooking (column 6, lines 29-33) and can be employed at 2%, for instance, using a mixture that includes alginates and gums and carboxymethyl cellulose (column 6, lines 34-41). Hagen is pertinent since Hagen is also applying a coating to food and where the coating results in the food having the appearance, odor, texture and color equivalent to that of ordinary coatings applied to foods (see at least, the abstract). Therefore, Hagen also teaches a coating that employs a color to food. Hagen also teaches that sodium alginates and gums and carboxymethyl cellulose can aide in providing this adhesive and cohesive action of the coating. Prasad also teaches that the coating can enhance the texture, flavor, and color of the final product (see page 4, lines 26-28). Obviously, combinations of binders would also have facilitated achieving a desired texture, flavor and color since they facilitate adhesion and cohesion of the coating and the colors in the coating to the food, as taught by Hagen. Therefore, to modify Prasad, who already teaches adding binders, and employ sodium alginate in

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combination with carboxymethyl cellulose and other gums would thus have been an obvious result effective variable, routinely determined through experimentation for the purpose of achieving the desired degree of cohesion and adhesion and color development when cooking the food. It is noted that Hagen is similar to Prasad in that both Hagen and Prasad teach coating foods with proteins and binders and also teach that the coating provides color to the food.

- Further on page 14 of the Appeal Brief, Appellants assert that Mizutani fails to teach or suggest any coatings for the raw food material for generating a roasted appearance due to pigment/colorants and proteins in the coating.

This argument is not persuasive since Mizutani has been relied on to teach that alginates facilitate applying coatings to food. In view of the teachings of the references of record, such as Horrocks and Hagen, it is noted that it would have been an obvious to have employed sodium alginate to the coating, for the purpose of achieving the particular desired degree of cohesion and adhesion of the coating to the food. For instance, Hagen already teaches employing combinations of binders to facilitate adhesion, cohesion and color retention on the food. Therefore, to employ combinations of conventional binders would thus have been routinely determinable to one having ordinary skill in the art, since they facilitate adhesion and cohesion of the coating and the colors in the coating to the food, for the purpose of achieving a desired texture, flavor and color.

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- Further on page 14 of the Appeal Brief, Appellants assert that none of the cited references disclose using sodium alginate and a source of proteins along with powdered blood or frozen blood as a colorant at the claimed range that provides a roasted appearance on an animal food piece or animal meat emulsion in accordance with the present claims.

This argument is not persuasive. It is noted that Prasad already teaches employing colorants, proteins and binders for the purpose of coating a product that can comprise a combination of meats together in a food product, where after cooking the coating would provide a roasted appearance on the food. Nevertheless, the art as applied above teaches that blood pigments have been conventionally employed for achieving a particular appearance to a food product. For instance, Horrocks teaches employing coagulants such as sodium alginate (see column 4, lines 4-24) as well as proteins such as blood plasma and wheat gluten (see column 3, line 66 to column 4, line 3) and dried blood as a colorant (see column 6, lines 23-42). The art thus teaches employing blood as a colorant in coatings and even teaches that the heating of blood results in the pigment changing color and resulting in a “roasted” appearance, as taught by Ito et al. Therefore, since Prasad already teaches that it was desirable to have a coating that results in a roasted appearance, to modify Prasad and employ powdered blood would thus have been obvious to one having ordinary skill in the art, based on the particular degree of color and roasted appearance that was desired. Regarding the sodium alginate and proteins, it is noted that sodium alginates and proteins, such as egg albumin, gluten and plasma have been recognized in the art for facilitating cohesion

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and adhesion, as evidenced by Horrocks, for instance. Since Prasad already teaches that the coating includes binders (page 12, lines 18-19), to modify Prasad and employ other coating thickeners and film formers, such as sodium alginate would thus have been obvious to one having ordinary skill in the art, based on the particular degree of thickness desired of the coating, as well as the degree of cohesion desired between the coating and the food. Obviously, combinations of binders would also have facilitated achieving a desired texture, flavor and color since they facilitate adhesion and cohesion of the coating and the colors in the coating to the food, as taught by Hagen.

- On page 15 of the Appeal Brief, Appellants assert that the examiner has employed hindsight to arrive at the claimed invention.

This argument has been considered but is not persuasive. It must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

In this case, the art teaches coating products with blood as a colorant and even teaches that blood pigments lose their red color and achieve a roasted state when exposed to elevated temperatures (see Ito et al.). Prasad already teaches a roasted appearance and thus to employ blood would have been obvious to one having ordinary

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skill in the art, for the purpose of achieving a particular desired roasted appearance.

Prasad also teaches that the coating can enhance flavor, texture and color of the final meat product. Thus, Prasad provides a generic teaching of employing the recited conventional proteins, colorants and binders for the purpose of achieving a particular color, flavor and textural enhancement to the food. Obviously the roasted appearance can vary based on the particular food products employed and the particular type of roasted appearance desired (i.e. lightly roasted versus overly roasted). Therefore, in combination with the knowledge of one having ordinary skill in the art, it is noted that the art provides motivation for employing blood pigments for coloring a meat product, especially since Prasad already teaches that it has desirable to provide a coating to enhance the roasted appearance. As discussed above, regarding the use of sodium alginate and a protein, it is noted that Prasad already teaches employing proteins such as egg whites (see page 12, 1-4) and soy or whey protein (see page 4, lines 1-2). Prasad already teaches employing other binders (see page 12, lines 18-19). Therefore the claims only differ in the particular type of protein and the other binders employed. As discussed above, it is noted that Prasad already teaches employing wheat gluten hydrolysate, which is still a source of gluten, as discussed in the rejections above. Nevertheless, the art further teaches the use of other proteins for the same purpose of providing coagulation, cohesion and adhesion of coatings, as taught by Horrocks et al. and Hagen, and to modify Prasad and employ these proteins would have been obvious to one having ordinary skill in the art, based on the degree of adhesion, cohesion and color retention desired for holding the coating to the food product.

- Further on page 15 of the Appeal Brief, Appellants assert that Prasad does not suggest that its fish or meat products are animal food compositions.

This argument is not persuasive since the claims are directed to a product and not a method of using the product. As such, meat compositions have been conventionally recognized in the art to be consumed by animals. Nevertheless, Dupont-Delhovren also teaches a product comprising a combination of meat, but even further, specifically states that it is an animal food composition.

- Further on page 15 of the Appeal Brief, Appellants assert that Prasad does not mention that colorants may be anything other than caramel, annatto, turmeric, paprika, tea leaves and the like.

It is noted however, that the art taken as a whole already teaches employing blood pigment, which when heated results in a roasted appearance, as evidenced by Ito. Furthermore, by stating “and the like” Prasad further teaches that other colorants can be employed for the purpose of achieving the desired roasted appearance.

- On page 16 of the Appeal Brief, Appellants assert that Dupont-Delhovren fails to teach the need for coatings for his animal food compositions or a need or use for the animal food compositions to have a roasted appearance.

This argument has already been presented on page 13 of the Appeal Brief, and is not persuasive for the reasons given above in response to the same argument on page 13 of the Appeal Brief.

- On page 16 of the Appeal Brief, Appellants also reiterate those arguments presented on page 13 of the Appeal Brief, with respect to Horrocks and Ariss.

These arguments have already been presented on page 13 of the Appeal Brief, and are not persuasive for the reasons given above in response to the same arguments on page 13 of the Appeal Brief.

- On page 16 of the Appeal Brief, regarding Palmer '340, Appellants assert that Palmer fails to teach or suggest any sodium alginate in the coatings.

This argument is not persuasive since Palmer '340 has not been relied on to teach the use of sodium alginate.

- Further on page 16 of the Appeal Brief, Appellants assert that Palmer '340 does not teach that the blood in the coating is used as a coloring agent and that section of Palmer relied on (column 7, lines 15-45) teaches blood employed at levels below those recited in the claims.

This argument has been considered but is not persuasive. It is noted that in view of Horrocks and Ariss, for instance, clearly blood is a colorant and has been used as a colorant in coatings, as discussed above in the rejections. Regarding the cited portions

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of Palmer '340, even if Palmer '340 employed a smaller amount, in view of the teaching of the cited art, this does not teach away from the fact that blood provides color. Even if the color was “overpowered” by other colorants that were present, it is noted that the blood would still have been a colorant.

- On page 17 of the Appeal Brief, Appellants assert that Ito discloses that the objective of using the red color pigment is to maintain the original color of the center of the cooked meat and that Ito fails to teach or suggest any coatings for his meat products because the red color pigment is added throughout the meat, which would lead the skilled artisan away from the present claims.

This argument is not persuasive since Ito has only been relied on to teach that when blood pigments are exposed to elevated temperatures that the red color essentially turns into a “roasted” color (column 1, lines 15-25).

- Further on page 17 of the Appeal Brief, Appellants assert that Ito does not disclose that the blood pigment causes the roasted appearance, but rather, Ito discloses that blood pigment in the roast meat denatures when it reaches a certain temperature. Appellants further assert that the half-roasted term refers to the state of the meat and not the exterior appearance of the meat block due to the denaturing of the blood pigment.

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These arguments have been considered but are not persuasive. It is noted that Ito teaches on column 1, lines 15-25 that by heating meat up to 200°C, for instance, the blood pigment of the external portion of the block of meat loses its red color and the central portion retains its original red color, which results in the meat being in the “half-roasted state.” It is noted that this means that the central portion has not been roasted, but the outer portion would thus have been in a roasted state. It is noted that when cooking meat, the blood pigments obviously turn into a darkened color (and lose their red pigment). It would have been obvious to the ordinarily skilled artisan that this loss of color results in the roasted part of the half-roasted state.

- On page 17 of the Appeal Brief, Appellants also reiterate those arguments presented on page 14 of the Appeal Brief, with respect to Ziegler.

These arguments have already been presented on page 14 of the Appeal Brief, and are not persuasive for the reasons given above in response to the same arguments on page 14 of the Appeal Brief.

- Further on page 17 of the Appeal Brief, Appellants assert that Hagen fails to teach or suggest a need or use for the good to have a roasted appearance due to blood and proteins in the coating. Appellants further assert that Hagen fails to disclose or suggest that its baked products are animal food compositions or are processed or suitable for animals thereby providing the skilled artisan no reason to use Hagen to arrive at the present claims.

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It is noted however, that Hagen has been relied on to teach adding a hydrophilic binding material to the food coating for the purpose of giving the coating a desired degree of cohesive and adhesive forces which would assure that the coating adheres to the foodstuff prior to and after cooking (column 6, lines 5-12). Hagen et al. further teaches that another function of the hydrophilic binder also controls the color development when cooking (column 6, lines 29-33) and can be employed at 2%, for instance, using a mixture that includes alginates and gums and carboxymethyl cellulose (column 6, lines 34-41). Hagen is pertinent since Hagen is also applying a coating to food. Hagen teaches that sodium alginates and gums and carboxymethyl cellulose can aide in providing this adhesive and cohesive action of the coating and thus to modify Prasad, who already teaches adding binders, and employ sodium alginate and carboxymethyl cellulose and other gums would have been an obvious result effective variable, routinely determined through experimentation for the purpose of achieving the desired degree of cohesion and adhesion and color development when cooking the food. It is noted that Hagen is similar to Prasad in that both Hagen and Prasad teach coating foods with proteins and binders and also teach that the coating provides color to the food.

Regarding the products of Hagen being animal food compositions, it is noted that Hagen is also directed to developing color on fresh or frozen meat and vegetable products (see column 2, lines 51-55). It is noted that meats and vegetables have been well recognized in the art to be consumed by animals. Nevertheless, it is noted that regardless of whether Hagen teaches what is a suitable "animal food" composition, the

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application of colorants and dyes for achieving a particular color, and the application of hydrophilic binding material to the food coating for the purpose of giving the coating a desired degree of cohesive and adhesive forces which would assure that the coating adheres to the foodstuff prior to and after cooking (column 6, lines 5-12) would have been equally applicable to coatings on all meat compositions. In any case, it is noted that combinations of meat, as taught by Prasad for instance, have been recognized to also be consumable by animals. This has been further corroborated by Dupont-Delhovren, who teaches combinations of meat which are animal food compositions.

- On page 18 of the Appeal Brief, Appellants assert that Mizutani fails to disclose or suggest that its baked products are animal food compositions.

This argument is not persuasive. It is noted that Prasad and Dupont-Delhovren already teach an animal food composition, as discussed directly above. As also discussed above, Mizutani is pertinent since Mizutani also discloses employing a coating on a food, which uses emulsifiers such as egg yolk and sodium alginate as binders for facilitating coating of the food with the coating. As discussed above, it is noted Mizutani is equally pertinent since it is similar to Prasad in that Mizutani also teaches applying coatings to foods. In combination with Hagan, who teaches coating of meat products, Mizutani and Hagen together teach that it has been conventional to include sodium alginate in coatings for the purpose of providing adhesive and cohesive forces which would assure that the coating adheres to the foodstuff prior to and after cooking.

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- Further on page 18 of the Appeal Brief, Appellants assert that Igoe merely lists the definition of sodium alginate and its use as a binder, thickener or gelling agent but fails to teach or suggest that the sodium alginate can be used in coatings for generating a roasted appearance.

This argument has been considered but is not persuasive. It is noted that Igoe thus clearly teaches that sodium alginate has been conventionally employed as a thickener, binder and gelling agent. Horrocks for instance, also teaches the use of gelling agents such as blood plasma and wheat gluten and also sodium alginate as a coagulating substance (see column 3, line 66 to column 4, line 24 of Horrocks). The art further teaches that it has been conventional to employ sodium alginate in coatings as a thickener, binder and gelling agent. Furthermore, it is noted that Prasad already teaches employing binders (page 12, lines 18-19) and it would have been obvious to one having ordinary skill in the art that the thickening and adhesive and cohesive forces present in the coating would have facilitated holding the coating on the food before and after cooking. Obviously, a coating that falls off the food before or after cooking would not provide any benefit. Nevertheless, since sodium alginate and gums and carboxymethyl cellulose, as taught by the art, have been conventionally recognized to even be used together for the purpose those adhesive and cohesive forces to the coating and for retaining the color from the coating on the food, as taught by Hagen (see column 6, lines 5-12; column 6, lines 29-33 and column 6, lines 34-41 of Hagen). It is noted that Horrocks also teaches that wheat gluten, blood plasma and sodium

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alginate are well recognized gelling/coagulating agents (see column 3, line 66 to column 4, line 24), where these agents can be used in combination (see example 2, on columns 7-8 of Horrocks, where wheat gluten and blood plasma have been employed together). Furthermore, it is noted that the particular viscosity and thickness of the coating would also have played a factor in the textural properties of the coating. Therefore, to modify Prasad who thus desired the coating to adhere to the food so that it would be provided with a roasted appearance after cooking and also employ sodium alginate, which the art recognized is a conventional binder employed in coating composition would have been an obvious result effective variable, routinely determined through experimentation, for the purpose of achieving the desired binding and gelling of the coating to the food.

- Further on page 18 of the Appeal Brief, Appellants reiterate that the Office Action relies on improper hindsight reconstruction.

This argument has been considered but is not persuasive. It is noted that Prasad already teaches Appellants solution of providing a roasted appearance to a meat product by employing a coating comprising a combination of colorants, proteins and binders. Nevertheless, regarding the particular combination of meat, cereal and water components, it is noted that Dupont-Delhovren already teaches the claimed meat composition and since Prasad also teaches that the coating can be employed to a food product comprising a combination of meats, to modify Prasad and apply the coating to another conventional combination of meat products would thus have been obvious to one having ordinary skill in the art, for the purpose of providing another food product

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having a combination of meat components with a roasted appearance. Regarding the particular colorants, it is noted that Prasad already teaches employing colorants for achieving the roasted appearance. Although not teaching employing powdered or frozen blood, Prasad already teaches a combination of colors, such as annatto (which is red) for the purpose of achieving a roasted appearance after cooking. Nevertheless, blood has been a conventional colorant and the art even teaches that blood pigment results in a roasted appearance after cooking, as evidenced by Ito et al. Furthermore, Horrocks and Ariss teach employing blood in a coating, within appellants' claimed range, for the purpose of providing color to the food via the coating. Nevertheless, the particular combination of colorants employed would have affected the particular roasted appearance achieved. Therefore, to modify Prasad and employ powdered blood would thus have been an obvious result effective variable, routinely determined through experimentation, for the purpose of achieving the particular degree of the roasted appearance desired. Furthermore, it is noted that the art teaches employing pigments and proteins and sodium alginate for the same purpose as that of Appellants.

Therefore, it is not seen that the use of these components for their art recognized function would have achieved in an unexpected result, especially in view of the fact that the art already teaches achieving a roasted brown appearance using colorants, proteins and binders.

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- On page 19 of the Appeal Brief, regarding the rejection of claims 22 and 43, Appellants repeat the arguments discussed above with respect to the rejection of claims 10-11,14,16,23-24,38-42 and 44-46 relying in Prasad as the primary reference.

These arguments are not persuasive for the reasons given above.

- On pages 19-21 of the Appeal Brief, Appellants essentially repeat those arguments which have already been presented above on pages 13-14, with respect to Horrocks, Ito, Dupont-Delhovren, Ziegler, Hagen and Mizutani.

These arguments are not persuasive for the reasons already presented in response to pages 13-14 of the Appeal Brief.

- On pages 22-24 of the Appeal Brief, Appellants assert that the examiner has employed hindsight to arrive at the claimed invention. On page 23 of the Appeal Brief, Appellants essentially repeat those arguments presented above with respect to Dupont-Delhovren, Ziegler, Hagen and Mizutani.

Regarding Dupont-Delhovren, Ziegler, Hagen, Mizutani, these references have all been discussed above with respect to the response to appellants arguments regarding these same references used in the rejections relying on Prasad as the primary reference. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was

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within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

In this case, the art teaches coating products with blood as a colorant and even teaches that blood pigments lose their red color and achieve a roasted state when exposed to elevated temperatures (see Ito et al.). Horrocks already teaches coating a meat product with a combination of blood at 10%, which is thus within the claimed range and egg albumin at 5%. Horrocks also teaches employing dried blood with water (column 6, lines 37-39) and even teaches that the protein can be blood plasma, egg albumin or wheat gluten (see column 3, line 66 to column 4, line 3). On column 4, lines 15-16, Horrocks also teaches employing sodium alginate as a coagulant, and on column 3, line 66 to column 4, line 2, Horrocks also teaches blood plasma and wheat gluten as coagulating/gelling substances. In example 2 on columns 7-8, Horrocks teaches employing wheat gluten and blood plasma together, thus teaching the use of multiple gelling agents together. Since Horrocks already teaches employing sodium alginate, a protein such as plasma (i.e. blood plasma) and even teaches employing blood at 10%, and even teaches that the coating provides the emulsion with the appearance of meat, that there would have been a reasonable expectation that the composition would also have provided a roasted appearance when it was cooked. Horrocks already teaches that the food emulsion can further include meat as well (see column 6, lines 16-22). Thus, claims 10, 38 and 46 differ from Horrocks in the

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particular combination of meat, cereal and water that has been sprayed with the protein/blood coating solution. Since Dupont-Delhovren also teaches an emulsion which comprises a combination of meat with other components and since Horrocks teaches that the coloring/coating composition would provide an improved cooked meat appearance, to thus modify Horrocks and coat the meat emulsion product such as that taught by Dupont-Delhovren would thus have been an obvious substitution of one conventional meat emulsion product for another conventional meat emulsion product that can be consumed by animals. Such a modification would have been obvious to one having ordinary skill in the art, for the purpose of providing the emulsion with the appearance of a cooked meat product. Horrocks even teaches that the coating results in providing the food with a cooked meat like appearance.

Regarding the use of sodium alginate, it is noted that Hagen, for instance, already teaches employing a combination of sodium alginate and gum and carboxymethyl cellulose, for the purpose of providing cohesive and adhesive forces to the coating. This is similar to Horrocks who also teaches the inclusion of sodium alginate and even teaches up to 3% sodium alginate (see column 4, lines 13-24). On column 4, lines 15-16, Horrocks also teaches employing sodium alginate as a coagulant, and on column 3, line 66 to column 4, line 2, Horrocks also teaches blood plasma and wheat gluten as coagulating/gelling substances. In example 2 on columns 7-8, Horrocks teaches employing wheat gluten and blood plasma together, thereby teaching the use of multiple gelling agents together. Obviously the ability of the coating to adhere to the food and to bind to itself would have been a function of the particular

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binders present. Nevertheless, to employ sodium alginate within Appellants claimed range would have been an obvious result effective variable, routinely determined through experimentation for the purpose of achieving the desired degree of coagulation, and adhesive and cohesive forces for retaining the coating on the food before and after cooking.

Therefore, in summary, Horrocks teaches employing blood as a colorant in a coating, within the claimed range; Horrocks teaches employing a protein such as blood plasma or wheat gluten and also teaches the use of sodium alginate in the coating. Horrocks also teaches using multiple gelling agents together. Although failing to teach the claimed food, Dupont-Delhovren teaches the claimed food composition. The compositions of Horrocks and Dupont-Delhovren are similar in that they are combination emulsions that are coated with a coating that includes a coloring agent, and where the foods directed to animal foods (see column 1, lines 8-12 of Horrocks et al. and the abstract of Dupont-Delhovren). Therefore, to modify Horrocks and coat the composition taught by Dupont-Delhovren would have been obvious substitution of one conventional food emulsion for another. Such a modification would have been obvious to one having ordinary skill in the art, for the purpose of providing an improved meat like appearance to another animal emulsion composition. It is further noted that since the coatings taught by Horrocks teaches the claimed components of the blood pigment, plasma or wheat gluten protein and sodium alginate within the claimed ranges, that there would have been a reasonable expectation that the application of a coating that can comprise the same components as those claimed within the same amounts would

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have resulted in a roasted appearance upon cooking. Thus, the art provides motivation for employing the coating composition on other animal food emulsions, for the purpose of improving the meat-like appearance of those emulsions and the art teaches employing proteins, sodium alginate and blood colorants, also for the purpose of coagulating the coating on to the emulsion pieces and for providing the desired meat like appearance to the emulsion. Therefore, it is not seen that the application of gelling agents such as plasma or wheat gluten, blood colorants, sodium alginate in a coating composition would have been non-obvious in view of the fact that the art teaches employing these elements in coating applications and for their art recognized and appellants' intended function.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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